

Research Article

Translating a spinal cord injury self-management intervention for online and telehealth delivery: A community-engaged research approach

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Objective: To develop educational content and pilot test the use of tablet computers (iPads), online content management platform (iTunes U) and video conferencing (FaceTime) for delivery of a peer supported, spinal cord injury self-management intervention, using a community-engaged research approach.

Design: Cross-sectional convenience sampled pilot study; evaluation using a combination of observation and questionnaires.

Setting: Community-based.

Participants: Individuals with SCI ($n = 10$) recruited from the community.

Interventions: Participants engaged in a hands-on evaluation of the educational content and technology.

Outcome Measures: Usability and acceptability of educational content and technology.

Results: Participants were receptive and satisfied with the iPad and iTunes U platform and the video chat experience. Statements by our participants demonstrated a clear preference for interactive and multimedia platforms to promote engagement with educational materials. The use of FaceTime to facilitate contact between the participant and PN demonstrated satisfactory usability and acceptability. The hands-on evaluation process highlighted the need for consideration of connectivity for rural participants and assistive technology needs.

Conclusion: Our community-engaged research approach and evaluation processes provided direct user feedback on the online and telehealth implementation of PHOENIX that will guide development of the remaining educational content, and testing of the intervention in a future feasibility trial.

Keywords: Telehealth, Spinal cord injury, Self-management, Community engagement, Intervention development

Introduction

Self-management after SCI

“Self-management” refers to the idea that people can effectively manage aspects of their chronic conditions with specific skills and training.¹ Self-management interventions, addressing post-spinal cord injury (SCI) issues such as pain,² and the promotion of physical activity,³ have been studied to a limited degree. Hirsche and

colleagues investigated the use of the Stanford Chronic Disease Self-Management (CDSM) protocol with people with neurological conditions including stroke, multiple sclerosis, and SCI.⁴ Findings from this study revealed the least satisfaction with the CDSM program among the SCI participants due to factors such as facilitator lack of familiarity with SCI, and absence of peer support. Recent investigations of key components of SCI-specific self-management interventions highlight the importance of peer support and mentoring.^{5,6}

Our pilot work used specially trained Peer Navigators (PNs) to promote post-SCI self-management. In the context of our studies, PNs are people with SCI who are informed about their condition, take an active role

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in their self-care, are trained in key self-management components, and have a desire to help others learn to navigate life with SCI.⁷ As our pilot work and that of others demonstrates, learning from peers is beneficial in rehabilitation and adjustment to living with an SCI.^{5,7-11}

Improving access through telehealth

The acceptability and efficacy of telehealth as a mechanism to increase reach with underserved populations, including people with disabilities, is well endorsed.^{12,13} Internet-based applications have the potential to overcome barriers to self-management, including access. In particular, Munce and colleagues found participants with SCI highly favored online delivery of self-management programs to offset transportation and mobility limitations.⁵ Systematic reviews of telehealth/telerehabilitation interventions for people with physical disabilities concluded that the strategy helped individuals with SCI remain in the community, clinical outcomes improved, and attendance, compliance, and satisfaction were consistently high.^{14,15}

Translating a peer supported self-management intervention for online and telehealth delivery

Using a community-engaged research approach, the overall goal of this study was to conduct pilot work to support the development of a technology-enhanced, peer-supported self-management intervention in partnership with the South Carolina Spinal Cord Injury Association (SCSCIA). Our Peer-supported Health Outreach, Education, and Information eXchange (PHOENIX) telehealth intervention is designed to promote self-management after SCI.

PHOENIX integrates the key skills of self-management as defined by Lorig and Holman: problem solving, decision making, resource utilization, partnership formation, action planning, and self-tailoring.¹ Developing participant self-efficacy in these essential skills through construction of action plans and facilitated goal setting supports a consumer centered approach to self-management. Specific strategies are grounded in assumptions of Social Cognitive Theory,

Table 1 PHOENIX educational content.

Modules	Content	Peer navigator role
<u>Module 1</u> Introduction to PHOENIX & SCI 101	<ul style="list-style-type: none"> • What is PHOENIX? • Relationship building exercise • Brief PN video bios • Understanding your SCI • Initial personal goal setting 	<ul style="list-style-type: none"> • Describe role of PN • Share personal story • Engage peer in story sharing • Facilitate realistic goal setting and identifying potential barriers
<u>Module 2</u> Getting what you need: Being an empowered consumer	<ul style="list-style-type: none"> • Advocacy skills – getting the information, services, and response you need • Knowing your rights • Active vs. passive communication 	<ul style="list-style-type: none"> • Role play • Facilitate discussion of video • Assess progress to personal goal (PTPG) and address barriers
<u>Module 3</u> Getting out there: Engaging community resources	<ul style="list-style-type: none"> • Identifying resources to support personal goal attainment • Initiate contact with resource • Use of discussion board in iTunesU 	<ul style="list-style-type: none"> • Assist with locating relevant resources • Support peer in engaging resource • Facilitate problem solving barriers • Assess PTPG/address barriers
<u>Module 4</u> Staying healthy: Skin care and preventing PU	<ul style="list-style-type: none"> • Skin care after SCI • Pressure ulcer prevention • Identifying a problem and taking action • Sharing photo/video of skill performance 	<ul style="list-style-type: none"> • Evaluate knowledge/address gaps • Share personal experiences and strategies • Facilitate identifying and problem solving potential barriers • Assess PTPG/address barriers
<u>Module 5</u> Staying healthy: Preventing UTI	<ul style="list-style-type: none"> • Bladder management after SCI • UTI prevention • Identifying a problem and taking action 	<ul style="list-style-type: none"> • Evaluate knowledge/address gaps • Share personal experiences and strategies • Facilitate identifying and problem solving potential barriers • Assess PTPG/address barriers
<u>Module 6 (New):</u> Staying healthy: Bowel Management	<ul style="list-style-type: none"> • Bowel management after SCI • Identifying a problem and taking action 	<ul style="list-style-type: none"> • Evaluate knowledge/address gaps • Share personal experiences and strategies • Facilitate identifying and problem solving potential barriers • Assess PTPG/address barriers

which posits learning and reinforcement through observing behavioral role models with similar conditions, such as a PN, results in behavior change.^{16–18}

Table 1 provides an overview of the content and PN role in the PHOENIX Modules

Prior lessons learned, during implementation of our original in-person intervention, prompted our efforts to translate PHOENIX for online and telehealth delivery. Previously, the majority of educational materials were provided in print format, and some participants either did not or could not read them. Additionally, we were limited to including participants that had wheelchair accessible homes so the PNs could make home visits. We found that the number of participants a PN was able to manage was limited, primarily due to travel time to meet participants. Given issues of scalability and sustainability, our partnership agreed a strategy to enhance the reach of our intervention was needed.

A 1-year, 2-phase pilot study supported the preliminary development and evaluation of online content and technology components of PHOENIX. Specifically, during Phase 1, our aim was to develop, in collaboration with our community partners, multimedia educational content on prevention of secondary conditions for online delivery using tablet computers. This included producing two instructional videos on prevention of common secondary conditions (pressure ulcers and urinary tract infections), and building the course infrastructure in iTunes U. During Phase 2, our aim was to conduct usability and acceptability testing “in the field” of educational materials developed in Phase 1, and tablet computers for online and telehealth delivery of PHOENIX.

Methods

Phase 1: content development

A critical feature in development, delivery, and evaluation of educational interventions is acquiring viewpoints, perspectives, and guidance from stakeholders. Community-engaged research is characterized by collaborative partnerships between academic researchers and the community.¹⁹ The PHOENIX project is the result of a decade long, community-engaged research partnership between the first author and the disability community.^{7,20,21} Our overall approach reflects the *Guidelines and Criteria for the Implementation of Community-based Health Promotion Programs for Individuals with Disabilities*, with this aspect of the project specifically addressing: active involvement of people with disabilities in intervention development and implementation, support of personal beliefs, practices, and values of

people with disabilities, and consideration of accessibility and barriers to program participation.²²

The SCSCIA has been a stakeholder in the Peer Navigator project since its inception. Over the course of this partnership, research activities have been guided by an active and empowered community advisory board,²³ more recently known as the “PHOENIX Task Force” (PTF), comprised of community members with SCI and from SCI-relevant service agencies. In this phase of the project, the PTF played a central role in the creation of the educational videos to increase the likelihood of developing content responsive to SCI-specific self-management needs and priority outcomes.

The first component of phase 1 consisted of producing two instructional videos on common secondary conditions that are the most frequent causes of rehospitalization post-injury (pressure ulcers and urinary tract infections).²⁴ Lorig and Holman’s key skills of self-management informed the targeted educational message of the videos. The content specifically addressed understanding risk factors for secondary complications, strategies to minimize these risks, early problem identification, and actions steps to address identified problems.¹ The PTF emphasized that our videos should be brief, realistic, and relatable, and most importantly, the information should be delivered by actors with SCI. We worked together on script writing, selecting key content, recruiting actors, and integrating preferences for information delivery (e.g. use of humor), graphics, text, and overall formatting (Fig. 1). The researcher, a certified rehabilitation registered nurse, ensured that credible and correct health information was provided using the SCI Model Systems

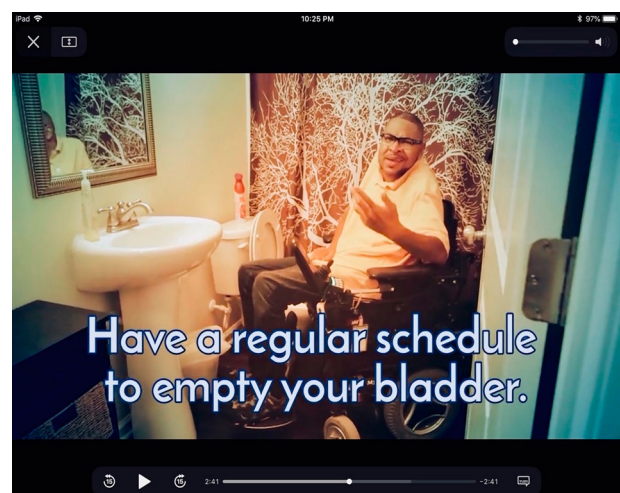


Figure 1 Still image from the preventing UTIs after SCI video.

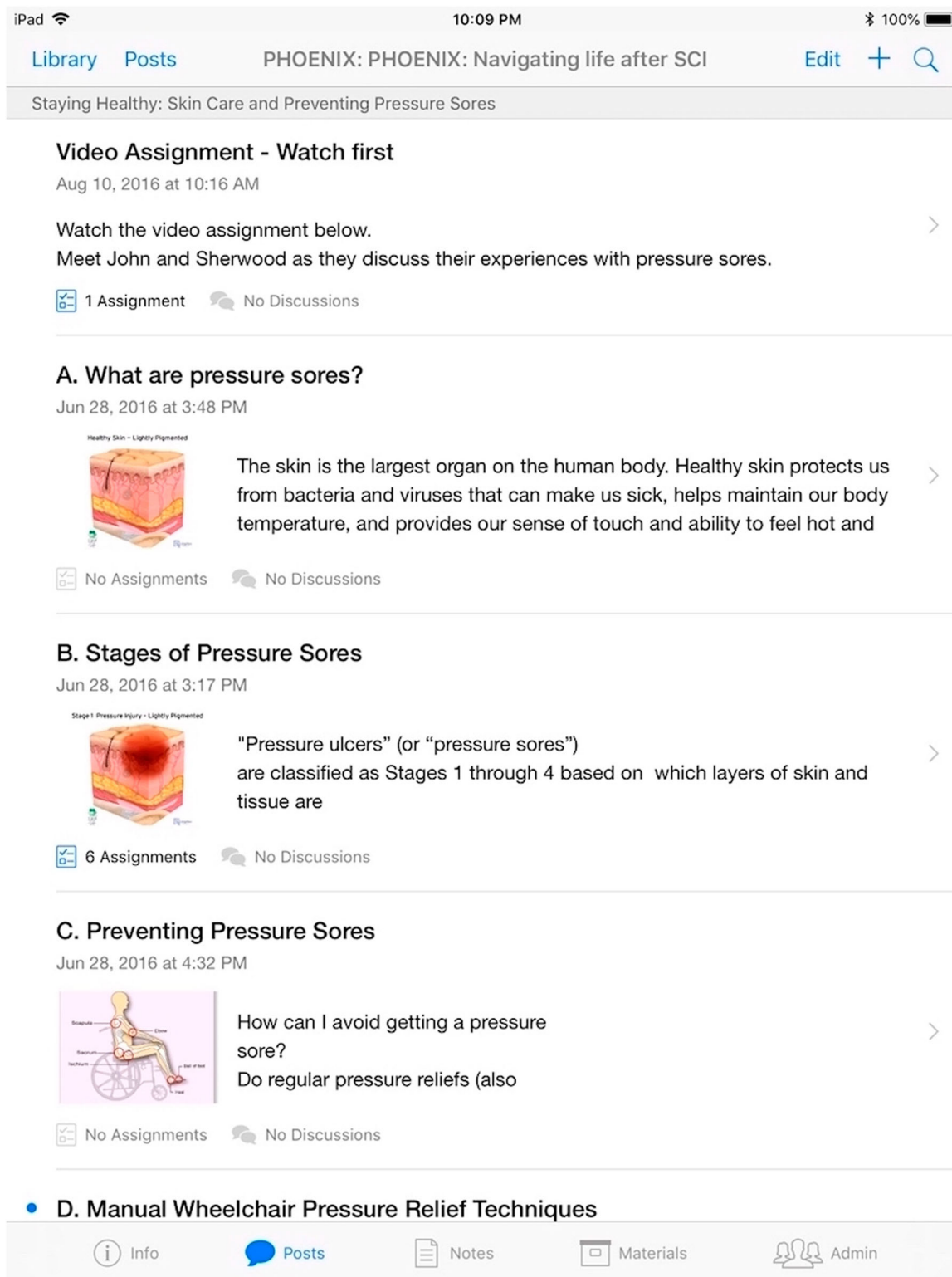


Figure 2 iTunes U screenshot of staying healthy: skin care & preventing pressure ulcers contents.

Knowledge Translation Center Fact Sheet library.²⁵ Videos included a disclaimer.

The second component of phase 1 consisted of building the secondary conditions modules of PHOENIX

using iTunes U, a well-established online content management platform. The videos were the first source of information in each module, followed by supplemental written information and graphics providing more

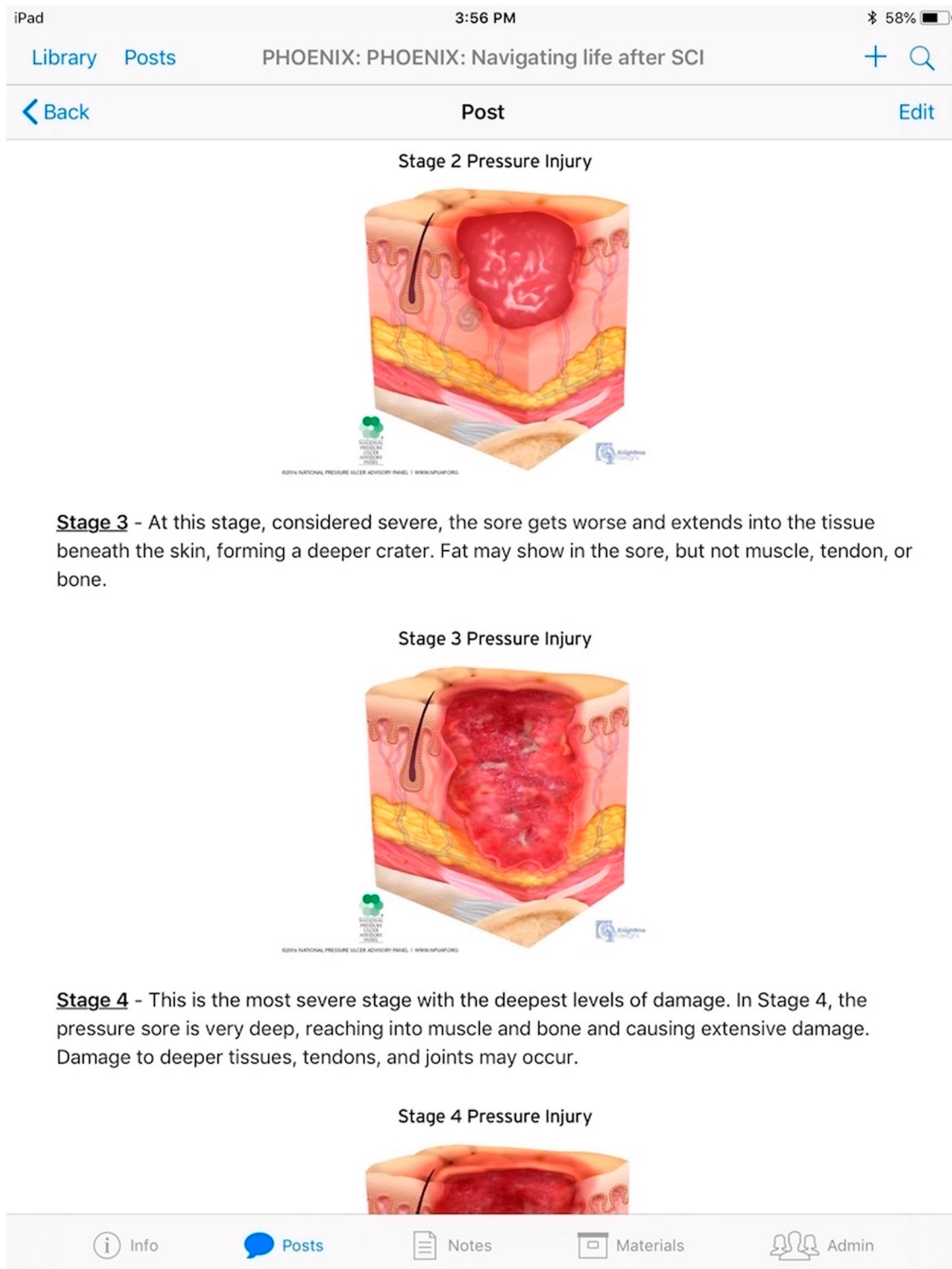


Figure 3 iTunes U screenshot of Stages of pressure ulcers section.

detailed information, building on concepts introduced in the videos (Figs. 2 and 3). Additional links to other web-based resources, such as videos of wheelchair pressure relief techniques, were embedded in the content.²⁶ The PTF reviewed and approved the iTunes U content before field-testing.

Phase two: field-testing

Sample and setting

After obtaining IRB approval, we recruited a diverse sample of 10 individuals with SCI from rural and urban settings in South Carolina. Previous studies evaluating user/technology interface have found that 80% of

usability problems can be found with only 5 participants.^{27,28} Participant criteria reflect those that will be used in a future PHOENIX intervention trial. *Inclusion criteria* were: (1) ≥ 18 years old, (2) Chronic paralysis due to traumatic SCI, (3) Level and severity of paralysis require locomotion with a wheelchair >6 hours/day, (4) Living in a private residence, (5) Accessible by mail, phone or email, and (6) Able to speak English. *Exclusion criteria* were: (1) Level of injury requires use of a ventilator, and (2) Unhealed Stage III or IV pressure ulcer requiring complex medical management or bed rest.

Hands-on evaluation

After completing a verbal informed consent process, hands-on evaluation of the iPad was conducted in participants' homes to simulate the setting in which they would access PHOENIX in a future trial. Participants were offered the choice of using an iPad Air 2 or an iPad mini. After being provided a basic demonstration on accessing and navigating the iTunes U and FaceTime apps, participants accessed iTunes U and reviewed the course content. Participants were observed by a member of the research team as they navigated the course and were provided prompts as needed. After participants were done reviewing the course, a video chat with one of our PNs, using FaceTime, was initiated. Once the video chat session was established, the participant and the PN engaged in casual conversation on topics of their choice.

Data collection

Prior to initiating the hands-on evaluation, participants completed a sociodemographic questionnaire, including SCI related questions, and questions regarding availability of, and experiences with, technology. During the hands-on experience, the researcher observed and noted issues encountered as participants navigated the course and engaged in the video chat. After the video chat ended, the researcher administered a questionnaire, consisting of closed and open-ended questions, by interview to solicit participant feedback on the iPad, iTunes U platform and content, and video chat.²⁹ The closed-ended items were adapted from the: (1) Systems Usability Scale³⁰ to evaluate use of the iPad, (2) adapted Standardized User Experience Questionnaire,³¹ originally designed to evaluate usability, trust and credibility, and appearance of websites, to evaluate the iTunes U course, and (3) a measure adopted from previous usability testing of smartphone two-way video capabilities (FaceTime app) for potential telehealth use for U.S. military service members.³² All

Table 2 Open-ended questions.

What did you like about using iTunes U on the iPad?
What would make the iTunes U experience better?
What did you like about the videos?
What would make them better?
What did you like about the written information?
What would make it better?
What did you like about the video chat?
What would make it better?
Would you want to use the things we looked at today to help you stay healthy with your spinal cord injury? Why or why not?
Is there anything else that you can think of that you would like to share?

questionnaires used a 5-point Likert scale (1-Strongly Disagree; 5-Strongly Agree). The open-ended questions were designed to solicit brief narrative responses for additional contextual information about participants' preferences and suggestions in their own words regarding the technology and educational content (Table 2).²⁹

Data analysis

Measures of central tendency (mean, median), and frequency distributions were calculated as appropriate for demographic variables for the total sample. For the closed-ended questionnaires, total means for each usability/satisfaction measure were calculated after reverse scoring of the negative item on the video chat evaluation scale. Additionally, medians, means and standard deviations were calculated for each item to identify items with high user agreement or disagreement. Analyses were performed using commercial software (SPSS, version 24.0; IBM). For the to the open-ended questions, analysis of the brief free form narrative responses was informed by qualitative description, as our purpose was to generate "straight description" of our participants' preferences and recommendations, with the intent of using this knowledge to influence future refinements to PHOENIX.³³⁻³⁵ The narrative responses for each participant were entered into a spreadsheet and grouped by question. Content analysis was used to identify patterns of preferences and suggestions on technology and educational content.³³

Results

Participants

Ten participants completed the in-person testing (Table 3). The majority of participants were male and the median age was 48.5 years with 5 of the 10 participants having a high school education or less. Half of participants had cervical injuries and some impairment of upper extremity function. All participants owned a mobile device (laptop, tablet, smartphone) and had access to wireless internet in their home, although one

Table 3 Participant demographics.

Sex n(%)	
Male	8(80)
Female	2(20)
Race n(%)	
White	3(30)
Black	7(70)
Age (years)	
Median	48.5
Min	36
Max	70
Education level n(%)	
High school or less	5(50)
> High school	5(50)
Injury level n(%)	
High cervical (C1-4)	1(10)
Low cervical (C5-8)	3(30)
Non-cervical	5(50)
Unknown	1(10)
Injury severity n(%)	
Complete	5(50)
Incomplete	5(50)
Time since injury (years)	
Median	24
Min	11
Max	46
Location n(%)	
Rural	4(40)
Suburban	5(50)
Urban	1(10)
WiFi @ home n(%)	
Yes	10(100)
DSL	2(20)
Cable	7(70)
Cellular card	1(10)

individual was only able to access the internet via smart-phone. Nine participants preferred the iPad Air 2 due to the larger screen size.

ipad usability & acceptability

Observations noted physical accessibility of the iPad. One participant, having a C4-5 incomplete injury, required adaptive equipment. He was able to tap the screen in the appropriate place with his knuckle but

Table 4 iPad Usability (n = 10).

	Min	Max	Mean (SD)	Median
Would like to use frequently	4	5	4.70 (.48)	5
Easy to use	4	5	4.60 (.52)	5
Able to access needed features	4	5	4.60 (.52)	5
Accessible to me (with or without AT)	2	5	4.30 (.95)	4.5
Very intuitive	4	5	4.70 (.49)	5
Could use without tech support	4	5	4.50 (.53)	4.5
Most people would learn how to use quickly	4	5	4.40 (.52)	4
Feel confident using	3	5	4.50 (.71)	5
Could use without learning anything new	2	5	3.90 (.99)	4

was unable to apply enough pressure to activate the iPad. We provided an adaptive ring stylus (Sixth Digit Ring Stylus™), placed on his hand by the researcher, allowing him to navigate the iPad effectively. Other participants with impaired hand function also used their knuckles but were able to apply adequate screen pressure.

Results of the adapted Systems Usability Subscale indicated favorable levels of agreement (total scale mean 4.47), supporting the usability and acceptability of the iPad (Table 4). The lowest ranking item (mean 3.9, median 4) was “I could use the iPad without having to learn anything new.” During the open-ended questioning, two participants suggested addition of an introductory iPad navigation video. All participants spoke favorably regarding the accessibility of the iPad – “*I could use one finger to work it and it was a lot easier than the computers in the library*” -Participant 6.

Itunes U/course content usability & acceptability

Participants were observed navigating the iTunes U platform and were able to move between and within the content modules without difficulty. Four participants required guidance to locate the small text prompt in the upper corner of the screen to navigate back to the iTunes U course after using embedded links to access “outside” online resources, such as YouTube videos.

Results of the adapted Standardized User Experience Questionnaire indicated favorable levels of agreement (total scale mean 4.51), supporting the usability and acceptability of the iTunes U course platform and content (Table 5), with course attractiveness being rated least favorably (mean 4.3, median 4.5). The majority of participants expressed satisfaction with the online and multimedia aspect of the content – “*It's better than a pile of papers and I like that you can interact with it*” -Participant 1. Participants enjoyed the videos, appreciated the focus on prevention of secondary conditions, identified the length (<5 minutes) to be acceptable, and

Table 5 iTunes U usability (n = 10).

	Min	Max	Mean (SD)	Median
Easy to use	4	5	4.50 (.53)	4.5
Information in the course is credible	4	5	4.60 (.52)	5
Easy to navigate	4	5	4.50 (.53)	4.5
Clean and simple presentation	4	5	4.60 (.52)	5
Information in the course is trustworthy	4	5	4.50 (.53)	4.5
Course is attractive	2	5	4.33 (.95)	4.5
Feel confident using	4	5	4.60 (.52)	5



Figure 4 Still image from the preventing pressure ulcers after SCI video.

the content as being “straight to the point.” They valued that all actors were individuals with SCI and found the humor and style of the videos helped to keep them engaged and interested in the content – “The videos got you motivated and held your attention”-Participant 6; “I liked that it showed them messing with a car, it showed that you can still do stuff in a wheelchair”-Participant 5; “The videos were funny and I liked the sitcom format [of the UTI video]” -Participant 4. (Fig. 4). Suggestions for improvement included increasing the font size used in iTunes U, having more people in the videos, and having the actors talk to the viewer, i.e. “breaking the fourth wall,” at times.

Video chat usability & acceptability

During the video chat session, participants with impaired hand function were observed to have difficulty holding the iPad at a preferred viewing angle, indicating the need for wheelchair mounts or supportive iPad cases. Connectivity issues precluded one participant

from engaging in the video chat. The individual was unable to provide the personal Wi-Fi password and lack of cellular network access prevented using the mobile hotspot. Another participant experienced occasional brief “freezing” of the video image. Notably, these participants lived in the most rural locations of all participants. FaceTime worked well once connected with no “dropped chats” or audio issues.

Results of the video chat usability questionnaire indicate favorable levels of agreement (total scale mean 4.53), supporting the usability and acceptability of the FaceTime platform (Table 6), with comfort holding the iPad during the video chat being rated least favorably (mean 4.22, median 4), consistent with observations. During follow up questioning, participants expressed positive perceptions of the video chat experience. “[The video chat] was cool. He could be in New York and we could still connect”- Participant 3. Another participant appreciated the opportunity to talk to “others in a [wheel]chair, who’ve been through it and know what it’s about” -Participant 5. No participants expressed apprehension with using the video chat feature to connect with someone remotely.

Discussion

The results of this investigation provide preliminary practical information regarding the feasibility and acceptability of online and telehealth delivery of a peer-supported, self-management intervention for individuals with SCI. Participants were receptive and satisfied with the iPad and iTunes U platform and the video chat experience. Participant statements demonstrate a clear preference for interactive and multimedia platforms to promote engagement with educational materials. The use of FaceTime to facilitate video contact between the participant and PN demonstrated satisfactory usability and acceptability. The use of video conferencing is especially appealing to individuals with mobility impairments who may experience barriers, such as lack accessible transportation, that inhibit moving freely in the community to attend in-person meetings.

The findings of our study are consistent with the results of previous, similar research. Participants in a small feasibility study of a nurse-led, web-based, self-management intervention for intermittent catheter use reported high satisfaction with the usability of the web-based information.³⁶ Results of a recent small pilot investigation ($n = 7$) of a peer-led, community based intervention to support prevention of secondary conditions through connections to primary care resources, suggest that structured, scheduled interactions

Table 6 Video Chat Usability ($n = 9$).

	Min	Max	Mean (SD)	Median
Easy to establish the video chat	4	5	4.44 (.53)	4
Able to see the other person clearly	4	5	4.56 (.53)	5
Easy to see facial expressions of the other person	4	5	4.67 (.50)	5
Easy to hear	4	5	4.67 (.50)	5
Comfortable to hold iPad	2	5	4.22 (.93)	4
Size of image was adequate	4	5	4.44 (.53)	5
Looking at the screen made me dizzy	1	2	1.33 (.50)	1
Feel comfortable using	4	5	4.56 (.53)	5
Interested in using to interact with peers	4	5	4.67 (.50)	5

with a “peer health coach” by telephone were feasible and acceptable.³⁷ The findings of this pilot investigation lead to a larger trial ($n = 84$) of the peer health coach telephone intervention which demonstrated decreased social activity limitations, and promoted life satisfaction, connection to primary care resources, and capacity to manage post-SCI preventive care needs.³⁸ Additionally, a recent trial ($n = 158$), conducted at a major SCI rehabilitation center in the US, demonstrated the value of peer mentors, who maintained telephone contact with mentees after discharge from rehabilitation, in reducing rehospitalization and increasing efficacy in self-management abilities.³⁹ These findings suggest the need for further investigations of innovative ways to use peer mentoring to support effective post-SCI self-management. Additionally, these studies encourage the design of interventions that use everyday technologies to overcome access barriers through online and telhealth delivery.

Using well-established platforms, e.g. the iPad and iTunes U, likely minimized usability issues with the technology. Our participants’ feedback supports the usability and acceptability of tablet computers, iTunes U, and two-way video chatting for delivery of PHOENIX. Our evaluation highlights the need to consider the accessibility of handheld mobile devices for individuals with impaired upper extremity function. Planning and budgeting for appropriate assistive technology (AT) needs for future trials presents a challenge as the specific functional limitations and associated AT needs of future participants is unknown. Our approach has been to make a best estimate based on prior participants’ characteristics and needs for budgeting purposes, and then engage resources as needed, such as our occupational therapy department, to assist with AT assessment and recommendations that can fit our budget and provide acceptable access. Additionally, connectivity issues for participants in rural areas are an important consideration in designing studies that are widely inclusive. For our implementation feasibility trial of PHOENIX, we will evaluate providing a cellular data plan for the duration of the intervention trial if needed, and a resource guide for Wi-Fi hotspots (e.g. the public library) for use afterwards.

Our participants’ favorable response to the educational content was likely due to the engagement of individuals with SCI in developing these materials, which in turn, promoted the relevance of the content and delivery to the end users.⁷ Historically, intervention development has been left to the academics and the health professionals, with minimal to no contribution from representatives of the population experiencing the

health condition of interest. However, over the past decade, there has been increasing recognition of the value of community consultation and participation during intervention development.⁴⁰ Allin and colleagues recently highlighted the benefits of a participatory design approach in developing an online SCI self-management resource, including identification of accessibility considerations, design and information credibility concerns, and strategies to mitigate these concerns.⁴¹ Collaborations between researchers, service providers, and representatives of the community, using a systematic approach to intervention development, increases the likelihood that the intervention will fit with the needs of the community of interest, thus maximizing potential uptake and effectiveness.⁴² Engaging stakeholders in determining and testing optimal delivery and implementation solutions is an essential component of intervention development.⁴² The community-engaged research framework provides a guide for inclusion of individuals with SCI as research partners in the development, implementation, and evaluation of technology-enhanced interventions intended to improve self-management outcomes after SCI.

This study does have some potential limitations. This was a small, feasibility study using a convenience sample. Despite our efforts to recruit diverse participants, our sample may not capture a representative range of usability/acceptability results for the target population. Notably our participants’ time since injury ranged from 11 to 46 years, thus our sample lacks representation of more recent injuries. Additionally, one participant was excluded from the video chat due to connectivity issues. We adapted established usability surveys to reflect the technology being evaluated in this study (e.g. iTunes U vs. website usability), which could alter the established psychometrics of the instruments. To balance this potential limitation, we used open-ended questions to validate and expand upon responses provided in the measures. Participants were encouraged to provide honest assessments and share both positive and negative comments. An additional potential limitation is that, while FaceTime may be utilized in a manner that is Health Insurance Portability and Accountability Act of 1996 (HIPAA)-compliant,⁴³ our institution has not approved FaceTime as a secure videoconferencing platform for the sharing of personal health information. In future pilot testing of PHOENIX, as there is the potential for sharing of personal health information between participants and PNs, we will be required to use an institution approved, HIPAA-compliant videoconferencing platform that is compatible with tablet computers.

Conclusion

Our evaluation processes provided direct user feedback on the online and telehealth implementation of PHOENIX that will guide development of the remaining educational content, and testing of the intervention in a future feasibility trial. By having individuals with SCI on our research team, we increase the likelihood of developing technology-enhanced, peer supported interventions that are feasible, acceptable, and accessible to individuals with SCI.

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